

**REMARKS**

Applicant thanks the Examiner for his careful attention to and detailed review of the present application.

Applicant has amended claim 10 to recite, in response to a path request from a third location, selecting one location adjacent to the third location from the first location and the second location, and setting up a connection between the third location and the one location to provide the optical wavelengths generated at the one location to the third location. Applicant has amended claim 15 to add changes corresponding to those of claim 10. The amendment to claims 10 and 15 is fully supported by the application as originally filed for example on page 4, lines 7-8. No new matter has been introduced by way of the amendment.

Applicant has amended claims 11-13 and 16-18 to replace "second group" with --group-. Applicant has amended claims 11 and 16 to replace "selected second wavelengths" with --wavelengths selected from the unmodulated optical wavelengths -. Applicant has amended claims 14 and 19 to replace "the first group of wavelengths" with "a first group of wavelengths selected from the first plurality of unmodulated optical wavelengths". The amendment to claims 11-14 and 16-19 is fully supported by the application as originally filed. No new matter has been introduced by way of the amendment.

Applicant has amended claim 20 to add the limitations of claims 22 and 23. Applicant has amended claim 24 to add the limitations of claims 26 and 27. Accordingly claims 22, 23, 26 and 27 have been cancelled without prejudice. The amendment to claims 20 and 24 is fully supported by the application as originally filed. No new matter has been introduced by way of the amendment.

New dependent claims 32-35, which directly or indirectly depend on claim 6, have been added. New claims 32-35 correspond to claims 28-31, and are fully supported by the application as originally filed.

New dependent claims 36-37, which depend on claim 10, have been added. New claims 36-37 are fully supported by the application as originally filed, for example on page 4, lines 16-22, page 12, lines 15-25, and Figures 1 and 5.

New dependent claims 38-39, which depend on claim 15, have been added. New claims 38-39 correspond to claims 36-37, and are fully supported by the application as originally filed.

New dependent claims 40-43, which directly or indirectly depend on claim 15, have been added. New claims 40-43 correspond to claims 28-31, and are fully supported by the application as originally filed.

The Examiner objected to claims 11-14 and 16-19 under 35 U.S.C. 112, second paragraph. The Examiner stated that in claims 11-13 and 16-18, the phrases "a second group" and "selected second wavelengths" are unclear. The Examiner stated that there is insufficient antecedent basis for the limitation of "the first group" in claims 14 and 19.

To overcome the Examiner's objections, claims 11-13 and 16-18 have been amended to replace "second group" with --group--.

To overcome the Examiner's objection, claims 11 and 16 have been amended to replace "selected second wavelengths" with --wavelengths selected from the unmodulated optical wavelengths--.

To overcome the Examiner's objections, claims 14 and 19 have been amended to replace "the first group of wavelengths" with --a first group of wavelengths selected from the first plurality of unmodulated optical wavelengths--.

It is respectfully submitted that claims 11-14 and 16-19 comply with 35 U.S.C. 112, second paragraph.

The Examiner rejected claims 20, 22-24, 26-28 and 30 under 35 U.S.C. 102(b) as being anticipated by Sharma et al. (U.S. Patent No. 5,717,795), hereinafter referred to as Sharma.

Claim 20 is directed to a method of optical wavelength allocation in a photonic network, which includes the steps of: generating a plurality of unmodulated optical wavelengths at a first location in the network; forming a group of wavelengths by grouping selected wavelengths; transmitting the group of wavelengths to a second location in the network; modulating one of the group of wavelengths at the second location; passing the group of wavelengths to a third location in the network; modulating a second of the group of wavelengths at the third location; and passing the modulated second of the group of wavelengths back to the second location thereby establishing a two way communications path using two optical wavelengths between the second and third locations. Claim 24 is an apparatus claim and corresponds to claim 20. Claims 28 and 30 depend on claim 24. Claims 22-23 and 26-27 have been cancelled without prejudice.

Regarding former claim 23, the Examiner stated that Sharma discloses, in Figure 4, passing the modulated second of the group of wavelengths back to the second location thereby establishing a two way communications path using two optical wavelengths between the second and third locations (elements 63 and 61 of Figure 4)

Figure 4 of Sharma discloses a light source 71 outputting lights  $\lambda_1$ - $\lambda_3$  and  $\lambda_1'$ - $\lambda_3'$ . One group of the lights  $\lambda_1$ - $\lambda_3$  is transmitted in the clockwise direction, while the other group of the lights  $\lambda_1'$ - $\lambda_3'$  is transmitted in the counterclockwise direction. As disclosed on col. 6, lines 5-15, communication from the node 61 to the node 63 (i.e., clockwise) is achieved using the light  $\lambda_2$ . As disclosed on col. 6, lines 16-21, communication from the node 66 to the node 62 (i.e., counterclockwise) is achieved using the light  $\lambda_2'$ . It is clear that one group of the lights  $\lambda_1$ - $\lambda_3$  (or  $\lambda_1'$ - $\lambda_3'$ ) is transmitted in a unidirectional manner.

Sharma neither discloses nor suggests establishing a two way communications path based on a group of wavelengths transmitted to a second location and a third location.

Sharma neither discloses nor suggests modulating one of the group of the wavelengths at a second location; passing the group of wavelengths to a third location; modulating a second of the group of the wavelengths at the third location; and passing the modulated second of the group of the wavelengths back to the second location.

Hence it is respectfully submitted that claims 20, 24, 28 and 30 are new and patentable over the cited reference.

The Examiner rejected claims 10 and 15 under 35 U.S.C. 103(a) as being unpatentable over Wanger (U.S. Patent No. 5,221,983).

Claim 10 is directed to a method of optical wavelength allocation in a photonic network, which includes the steps of: generating a first plurality of unmodulated optical wavelengths at a first location in the network; generating a second plurality of unmodulated optical wavelengths at a second location in the network; and in response to a path request from a third location, selecting one location adjacent to the third location from the first location and the second location, and setting up a connection between the third location and the one location to provide the optical wavelengths generated at the one location to the third location. Claims 11-14 directly or indirectly depend on claim 10. Claim 15 is an apparatus claim corresponding to claim 10. Claims 16-19 directly or indirectly depend on claim 15.

The Examiner stated that Wagner discloses generating a first plurality of unmodulated wavelengths at a first location. However, Wagner neither suggests nor teaches selecting one location adjacent to the third location from the first location and the second location in response to a path request from a third location, and setting up a connection between the third location and the one location to provide the optical wavelengths generated at the one location to the third location.

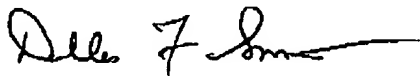
Hence it is respectfully submitted that claims 10 and 15 and their dependent claims are patentable in view of the cited reference.

The Examiner rejected claim 29 under 35 U.S.C. 103(a) as being unpatentable over Sharma. The Examiner rejected claim 31 under 35 U.S.C. 103(a) as being unpatentable over Sharma in view of Kartalopoulos ("Introduction to DWDM Technology", IEEE Press, 2000, page 175).

Claims 29 and 31 depend on claim 24. As described above, Sharma neither suggests nor teaches the subject matter defined by claim 24. Kartalopoulos merely states a dense wavelength division multiplexing (DWDM) and a coarse WDM (CWDM). Kartalopoulos does not add any teaching to Sharma to render claim 24 unpatentable. Accordingly, it is respectfully submitted that claims 29 and 31 are patentable in view of the cited references.

In view of the above amendments and remarks, and having dealt with all of the matters raised by the Examiner, early reconsideration and allowance of the application is respectfully requested.

Respectfully Submitted,



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